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PHASE IA CULTURAL RESOURCES ASSESSMENT SURVEY OF THE  
PROPOSED ELMRIDGE SOLAR CENTER PROJECT IN  
STONINGTON, CONNECTICUT

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## ABSTRACT

This report presents the results of a Phase IA cultural resources assessment survey for a proposed solar center in Stonington, Connecticut. The Limit of Work associated with the solar center will occupy two parcels of land located within the existing Elmridge Golf Course and covers a total of approximately 18.7 acres of land. The current investigation consisted of: 1) preparation of an overview of the region's prehistory, history, and natural setting); 2) a literature search to identify and discuss previously recorded cultural resources in the region; 3) a review of readily available historic maps and aerial imagery depicting the access roads and Limit of Work to identify potential historic resources and/or areas of past disturbance; 4) pedestrian survey and photo-documentation of the access roads and the Limit of Work to determine their archaeological sensitivity; and 5) preparation of the current Phase IA cultural resources assessment survey report. The results of the survey indicate that the two parcels associated with the proposed solar center in Stonington have undergone previous disturbances related to the development and construction of the existing golf course facility and therefore will not require any additional archaeological research or survey.

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# CHAPTER I

## INTRODUCTION

This report presents the results of a Phase IA cultural resources assessment survey for a proposed solar center to be built within the confines of the Stonington Elmridge Golf Course, which is located at 229 Elmridge Road in Stonington, Connecticut (Figure 1). Milone & MacBroom requested that Heritage Consultants, LLC (Heritage) complete the assessment survey as part of the planning process for the proposed solar centers, which will occupy two parcels of land totaling approximately 20.7 ac. Both parcels are contained within the Elmridge Golf Course, a 27 hole course that covers an area of over 250 acres in size. Heritage completed the investigation of the LOW on behalf of Milone & MacBroom in October of 2019. All work associated with this project was performed in accordance with the *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987) promulgated by the Connecticut Historic Commission, State Historic Preservation Office.

### **Project Description and Methods Overview**

The proposed solar center will contain two arrays that will be located on two parcels of land within the Elmridge Golf Course; both are located to the south side of Elmridge Road (Figure 1). The two parcels are separated by North Anguilla Road, which runs from north to south across the southern portion of the existing golf course. The area containing the parcels is bordered by North Anguilla Road to the west, wetlands to the east, and wooded house lots to the south. Anguilla Brook runs along the southwestern edge of the golf course and lies within 100 m (300 ft) of the westernmost of the two parcels. The Pawcatuck River and associated wetlands are located within 1.64 km (1.2 miles) to the east. The two parcels to contain the solar center are hereafter referred to as the Limit of Work (LOW).

This Phase IA cultural resources assessment survey consisted of the completion of the following tasks: 1) a contextual overview of the region's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously completed cultural resources surveys and previously recorded cultural resources in the region encompassing the study area; 3) a review of readily available historic maps and aerial imagery depicting the study area in order to identify potential historic resources and/or areas of past disturbance; 4) pedestrian survey and photo-documentation of the access roads and the LOW in order to determine their archaeological sensitivity; and 5) preparation of the current Phase IA cultural resources assessment survey report.

### **Project Results and Management Recommendations Overview**

The review of historic maps and aerial images of the LOW, files maintained by the Connecticut State Historic Preservation Office, and pedestrian survey of the two project parcels did not result in the identification of any new or previously identified archaeological sites in the vicinity of the LOW. Based on careful review of aerial photos of the LOW through time, as well as observations noted during the pedestrian survey portion of the study area, Heritage staff concluded that the areas comprising the LOW have been subjected to extensive grading and other ground disturbing activity typical of golf course development and construction. Due to the level of disturbance observed, no additional survey of the LOW is recommended prior to the construction of the proposed solar center.

**Project Personnel**

Key personnel for this project included Mr. David R. George, M.A., R.P.A, who served as Principal Investigator for this effort; he was assisted by Antonio Medina, B.A., who assisted with the report preparation, and Mr. Cory Atkinson, M.A., who completed the field work portion of the project. Ms. Stacey Vairo, M.F.A., provided architectural history review for the project and Mr. William Keegan, B.A., support services and project mapping. Ms. Kristen Keegan completed this historic background research of the project and contributed to the final report, while Mr. Stephen Anderson completed all GIS tasks associated with the project.

**Organization of the Report**

The natural setting of the region encompassing the study area is presented in Chapter II; it includes a brief overview of the geology, hydrology, and soils, of the project region. The prehistory of the project region is outlined briefly in Chapter III. The history of the region encompassing the project region and study area is chronicled in Chapter IV, while a discussion of previous archaeological investigations in the vicinity of the study area is presented in Chapter V. The methods used to complete this investigation are discussed in Chapter VI. Finally, the results of this investigation and management recommendations for the study area and the identified cultural resources are presented in Chapter VII.



## CHAPTER II

### NATURAL SETTING

#### Introduction

This chapter provides a brief overview of the natural setting of the region containing the study area. Previous archaeological research has documented that a few specific environmental factors can be associated with both prehistoric and historic period site selection. These include general ecological conditions, as well as types of fresh water sources and soils present. The remainder of this section provides a brief overview of the ecology, hydrological resources, and soils present within the LOW and the larger region in general.

#### Ecoregions of Connecticut

Throughout the Pleistocene and Holocene Periods, Connecticut has undergone numerous environmental changes. Variations in climate, geology, and physiography have led to the “regionalization” of Connecticut’s modern environment. It is clear, for example, that the northwestern portion of the state has very different natural characteristics than the coastline. Recognizing this fact, Dowhan and Craig (1976), as part of their study of the distribution of rare and endangered species in Connecticut, subdivided the state into various ecoregions. Dowhan and Craig (1976:27) defined an ecoregion as:

“an area characterized by a distinctive pattern of landscapes and regional climate as expressed by the vegetation composition and pattern, and the presence or absence of certain indicator species and species groups. Each ecoregion has a similar interrelationship between landforms, local climate, soil profiles, and plant and animal communities. Furthermore, the pattern of development of plant communities (chronosequences and toposequences) and of soil profile is similar in similar physiographic sites. Ecoregions are thus natural divisions of land, climate, and biota.”

Dowhan and Craig defined nine major ecoregions for the State of Connecticut. They are based on regional diversity in plant and animal indicator species (Dowhan and Craig 1976). Only one of the ecoregions is germane to the current investigation: Western Coastal ecoregion. A brief summary of this ecoregion is presented below. It is followed by a discussion of the hydrology and soils found in and adjacent to the study area.

#### Western Coastal Ecoregion

The Western Coastal ecoregion consists of a hilly terrain that extends from Connecticut’s coastline to approximately 5 to 7 miles to the north of Long Island Sound (Dowhan and Craig 1976). It is characterized by “coastlands, including extensive tidal marshes, sand beaches, and estuaries, by relatively level but rolling near-shore lands, and by locally rugged and rocky protrusions of upland extending to the shoreline” (Dowhan and Craig 1976:38). Elevations in the Western Coastal ecoregion range from sea level to 152 m (500 ft) NGVD (Bell 1985). The bedrock of the area is primarily metamorphic in origin, and it composed of schists and gneisses deposited during the Paleozoic (Bell 1985). Soils in the region have developed on top of glacial till in upland locales and on top of stratified deposits of silts and sands in the valleys. Soils along the coast are developed upon coastal and tidal deposits (Dowhan and Craig 1976). This ecoregion is also characterized by numerous ponds, rivers, streams, brooks, and wetland areas.

### Hydrology in the Vicinity of the Study Area

The current project area is situated within a region that contains several sources of freshwater, including the Pawcatuck River, Mystic River, Copps Brook, Stony Brook, Anguilla Brook, and Wheeler Brook, as well as numerous unnamed streams, ponds, and wetlands. These freshwater sources may have served as resource extraction areas for Native American and historic populations. Previously completed archaeological investigations in Connecticut have demonstrated that streams, rivers, and wetlands were focal points for prehistoric occupations because they provided access to transportation routes, sources of freshwater, and abundant faunal and floral resources.

### Soils Comprising the Study Area

Soil formation is the direct result of the interaction of a number of variables, including climate, vegetation, parent material, time, and organisms present (Gerrard 1981). Once archaeological deposits are buried within the soil, they are subject to a number of diagenic processes. Different classes of artifacts may be preferentially protected, or unaffected by these processes, whereas others may deteriorate rapidly. Cyclical wetting and drying, freezing and thawing, and compression can accelerate chemically and mechanically the decay processes for animal bones, shells, lithics, ceramics, and plant remains. Lithic and ceramic artifacts are largely unaffected by soil pH, whereas animal bones and shells decay more quickly in acidic soils such as those that are present in within the current study area. In contrast, acidic soils enhance the preservation of charred plant remains.

A review of the soils within the study area is presented below. The study area is characterized by the presence of three major soil types. They include Haven/Enfield, Canton/Charlton, and Paton/Montauk soils (Figure 2). A review of these soils shows that the first they consist of well drained sandy loams; they are the types of soils that are typically correlated with prehistoric and historic use and occupation. Descriptive profiles for each soil type are presented below; they were gathered from the National Resources Conservation Service.

#### Haven/Enfield Soils:

A typical soils profile for Haven/Enfield Soils is as follows: **Oi**-- 0 to 2 inches (0 to 5 centimeters); slightly decomposed plant material derived from loose pine needles, leaves and twigs; **Oa**-- 2 to 3 inches (5 to 8 centimeters); black (5YR 2/1) highly decomposed plant material; **A**-- 3 to 6 inches (8 to 15 centimeters); dark grayish brown (10YR 4/2) loam; weak fine and medium granular structure; friable; many fine and coarse roots; very strongly acid; abrupt smooth boundary; **Bw1**-- 6 to 13 inches (15 to 33 centimeters); brown (7.5YR 4/4) loam; weak fine and medium subangular blocky structure; friable; common fine roots; many fine pores; very strongly acid; clear wavy boundary; **Bw2**-- 13 to 22 inches (33 to 56 centimeters); strong brown (7.5YR 5/6) loam; weak fine and medium subangular blocky structure; friable; common fine roots; many fine pores; 5 percent fine gravel; very strongly acid; gradual wavy boundary; **BC**-- 22 to 31 inches (56 to 79 centimeters); yellowish brown (10YR 5/6) gravelly loam; weak medium and fine subangular blocky structure; friable; few fine roots; common fine pores; 20 percent fine gravel; very strongly acid; clear wavy boundary; and **2C**-- 31 to 65 inches (79 to 165 centimeters); yellowish brown (10YR 5/4) to brownish yellow (10YR 6/6) stratified gravelly sand; single grained; loose; 30 percent fine gravel; very strongly acid.

#### Canton/Charlton Soils:

A typical soils profile for Canton/Charlton Soils is as follows: **Oi**-- 0 to 5 cm; slightly decomposed plant material; **A**-- 5 to 13 cm; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; friable; common fine roots; 5 percent gravel; very strongly acid (pH 4.6); abrupt smooth boundary; **Bw1**-- 13 to 30 cm; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular

blocky structure; friable; common fine and medium roots; 5 percent gravel; very strongly acid (pH 4.6); clear smooth boundary; **Bw2**-- 30 to 41 cm; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 5 percent gravel; strongly acid (pH 5.1); clear smooth boundary; **Bw3**-- 41 to 56 cm; yellowish brown (10YR 5/4) gravelly fine sandy loam; weak medium subangular blocky; friable; common fine and medium roots; 15 percent gravel; strongly acid (pH 5.1); abrupt smooth boundary; and **2C**-- 56 to 170 cm; grayish brown (2.5Y 5/2) gravelly loamy sand; massive; friable; 25 percent gravel; moderately acid (pH 5.6).

#### Paxton/Montauk Soils:

A typical soils profile for Paxton/Montauk Soils is as follows: **Ap** -- 0 to 8 inches; dark brown (10YR 3/3) fine sandy loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; many fine roots; 5 percent gravel; strongly acid; abrupt smooth boundary; **Bw1** -- 8 to 16 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; 5 percent gravel; few earthworm casts; strongly acid; gradual wavy boundary; **Bw2** -- 16 to 26 inches; olive brown (2.5Y 4/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent gravel; strongly acid; clear wavy boundary; **Cd** -- 26 to 66 inches; olive (5Y 5/3) gravelly fine sandy loam; medium plate-like divisions; massive; very firm, brittle; 25 percent gravel; many dark coatings on plates; strongly acid.

#### **Summary**

The natural setting of the area containing the proposed solar center is common throughout the Western Coastal Lowlands ecoregion. Streams and rivers of this area empty either into the Pawcatuck or Mystic Rivers, which in turn, drain into the Long Island Sound. Further, the landscape in general is dominated by sandy loamy soil types with wetlands soils intermixed. In addition, low slopes dominate the region. Thus, in general, the project region was well suited to Native American occupation throughout the prehistoric era. As a result, archaeological sites have been documented in the larger project region, and additional prehistoric cultural deposits may be expected within the undisturbed portions of the proposed impact areas. This portion of Stonington was also used throughout the historic era, as evidenced by the presence of numerous historic residences and agricultural fields throughout the region; thus, archaeological deposits dating from the last 350 years or so may also be expected near or within the proposed impact areas.

## CHAPTER III

### PREHISTORIC SETTING

#### Introduction

Prior to the late 1970s and early 1980s, very few systematic archaeological surveys of large portions of the state of Connecticut had been undertaken. Rather, the prehistory of the region was studied at the site level. Sites chosen for excavation were highly visible and they were located in such areas as the coastal zone, e.g., shell middens, and Connecticut River Valley. As a result, a skewed interpretation of the prehistory of Connecticut was developed. It was suggested that the upland portions of the state, i.e., the northeastern and northwestern hills ecoregions, were little used and rarely occupied by prehistoric Native Americans, while the coastal zone, i.e., the eastern and western coastal and the southeastern and southwestern hills ecoregions, were the focus of settlements and exploitation in the prehistoric era. This interpretation remained unchallenged until the 1970s and 1980s when several town-wide and regional archaeological studies were completed. These investigations led to the creation of several archaeological phases that subsequently were applied to understand the prehistory of Connecticut. The remainder of this chapter provides an overview of the prehistoric setting of the region encompassing the study area.

#### Paleo-Indian Period (12,000-10,000 Before Present [B.P.])

The earliest inhabitants of the area encompassing the State of Connecticut, who have been referred to as Paleo-Indians, arrived in the area by ca., 12,000 B.P. (Gramly and Funk 1990; Snow 1980). Due to the presence of large Pleistocene mammals at that time and the ubiquity of large fluted projectile points in archaeological deposits of this age, Paleo-Indians often have been described as big-game hunters (Ritchie and Funk 1973; Snow 1980); however, as discussed below, it is more likely that they hunted a broad spectrum of animals.

While there have been numerous surface finds of Paleo-Indian projectile points throughout the State of Connecticut, only two sites, the Templeton Site (6-LF-21) in Washington, Connecticut and the Hidden Creek Site (72-163) in Ledyard, Connecticut, have been studied in detail and dated using the radiocarbon method (Jones 1997; Moeller 1980). The Templeton Site (6-LF-21) is located in Washington, Connecticut and was occupied between 10,490 and 9,890 years ago (Moeller 1980). In addition to a single large and two small fluted points, the Templeton Site produced a stone tool assemblage consisting of graters, drills, core fragments, scrapers, and channel flakes, which indicates that the full range of stone tool production and maintenance took place at the site (Moeller 1980). Moreover, the use of both local and non-local raw materials was documented in the recovered tool assemblage, suggesting that not only did the site's occupants spend some time in the area, but they also had access to distant stone sources, the use of which likely occurred during movement from region to region.

The only other Paleo-Indian site studied in detail in Connecticut is the Hidden Creek Site (72-163) (Jones 1997). The Hidden Creek Site is situated on the southeastern margin of the Great Cedar Swamp on the Mashantucket Pequot Reservation in Ledyard, Connecticut. While excavation of the Hidden Creek Site produced evidence of Terminal Archaic and Woodland Period components (see below) in the upper soil horizons, the lower levels of the site yielded artifacts dating from the Paleo-Indian era. Recovered Paleo-Indian artifacts included broken bifaces, side-scrapers, a fluted preform, graters, and end-scrapers.

Based on the types and number of tools present, Jones (1997:77) has hypothesized that the Hidden Creek Site represented a short-term occupation, and that separate stone tool reduction and rejuvenation areas were present.

While archaeological evidence for Paleo-Indian occupation is scarce in Connecticut, it, combined with data from the West Athens Road and King's Road Site in the Hudson drainage and the Davis and Potts Sites in northern New York, supports the hypothesis that there was human occupation of the area not long after ca. 12,000 B.P. (Snow 1980). Further, site types currently known suggest that the Paleo-Indian settlement pattern was characterized by a high degree of mobility, with groups moving from region to region in search of seasonally abundant food resources, as well as for the procurement of high quality raw materials from which to fashion stone tools.

### **Archaic Period (10,000 to 2,700 B.P.)**

The Archaic Period, which succeeded the Paleo-Indian Period, began by ca., 10,000 B.P. (Ritchie and Funk 1973; Snow 1980), and it has been divided into three subperiods: Early Archaic (10,000 to 8,000 B.P.), Middle Archaic (8,000 to 6,000 B.P.), and Late Archaic (6,000 to 3,400 B.P.). These periods were devised to describe all non-farming, non-ceramic producing populations in the area. Regional archeologists recently have recognized a final "transitional" Archaic Period, the Terminal Archaic Period (3,400-2,700 B.P.), which was meant to describe those groups that existed just prior to the onset of the Woodland Period and the widespread adoption of ceramics into the toolkit (Snow 1980; McBride 1984; Pfeiffer 1984, 1990; Witthoft 1949, 1953).

#### Early Archaic Period (10,000 to 8,000 B.P.)

To date, very few Early Archaic sites have been identified in southern New England. As a result, researchers such as Fitting (1968) and Ritchie (1969), have suggested a lack of these sites likely is tied to cultural discontinuity between the Early Archaic and preceding Paleo-Indian Period, as well as a population decrease from earlier times. However, with continued identification of Early Archaic sites in the region, and the recognition of the problems of preservation, it is difficult to maintain the discontinuity hypothesis (Curran and Dincauze 1977; Snow 1980).

Like their Paleo-Indian predecessors, Early Archaic sites tend to be very small and produce few artifacts, most of which are not temporally diagnostic. While Early Archaic sites in other portions the United States are represented by projectile points of the Kirk series (Ritchie and Funk 1973) and by Kanawha types (Coe 1964), sites of this age in southern New England are identified recognized on the basis of a series of ill-defined bifurcate-based projectile points. These projectile points are identified by the presence of their characteristic bifurcated base, and they generally are made from high quality raw materials. Moreover, finds of these projectile points have rarely been in stratified contexts. Rather, they occur commonly either as surface expressions or intermixed with artifacts representative of later periods. Early Archaic occupations, such as the Dill Farm Site and Sites 6LF64 and 6LF70 in Litchfield County, an area represented by camps that were relocated periodically to take advantage of seasonally available resources (McBride 1984; Pfeiffer 1986). In this sense, a foraging type of settlement pattern was employed during the Early Archaic Period.

#### Middle Archaic Period (8,000 to 6,000 B.P.)

By the onset of the Middle Archaic Period, essentially modern deciduous forests had developed in the region (Davis 1969). It is at this time that increased numbers and types of sites are noted in Connecticut (McBride 1984). The most well-known Middle Archaic site in New England is the Neville Site, which is located in Manchester, New Hampshire and studied by Dincauze (1976). Careful analysis of the Neville

Site indicated that the Middle Archaic occupation dated from between ca., 7,700 and 6,000 years ago. In fact, Dincauze (1976) obtained several radiocarbon dates from the Middle Archaic component of the Neville Site. The dates, associated with the then-newly named Neville type projectile point, ranged from 7,740 $\pm$ 280 and 7,015 $\pm$ 160 B.P. (Dincauze 1976).

In addition to Neville points, Dincauze (1976) described two other projectile points styles that are attributed to the Middle Archaic Period: Stark and Merrimac projectile points. While no absolute dates were recovered from deposits that yielded Stark points, the Merrimac type dated from 5,910 $\pm$ 180 B.P. Dincauze argued that both the Neville and later Merrimac and Stark occupations were established to take advantage of the excellent fishing that the falls situated adjacent to the site area would have afforded Native American groups. Thus, based on the available archaeological evidence, the Middle Archaic Period is characterized by continued increases in diversification of tool types and resources exploited, as well as by sophisticated changes in the settlement pattern to include different site types, including both base camps and task-specific sites (McBride 1984:96)

#### Late Archaic Period (6,000 to 3,700 B.P.)

The Late Archaic Period in southern New England is divided into two major cultural traditions that appear to have coexisted. They include the Laurentian and Narrow-Stemmed Traditions (Funk 1976; McBride 1984; Ritchie 1969a and b). Artifacts assigned to the Laurentian Tradition include ground stone axes, adzes, gouges, ulus (semi-lunar knives), pestles, atlatl weights, and scrapers. The diagnostic projectile point forms of this time period in southern New England include the Brewerton Eared-Notched, Brewerton Eared and Brewerton Side-Notched varieties (McBride 1984; Ritchie 1969a; Thompson 1969). In general, the stone tool assemblage of the Laurentian Tradition is characterized by flint, felsite, rhyolite and quartzite, while quartz was largely avoided for stone tool production.

In terms of settlement and subsistence patterns, archaeological evidence in southern New England suggests that Laurentian Tradition populations consisted of groups of mobile hunter-gatherers. While a few large Laurentian Tradition occupations have been studied, sites of this age generally encompass less than 500 m<sup>2</sup> (5,383 ft<sup>2</sup>). These base camps reflect frequent movements by small groups of people in search of seasonally abundant resources. The overall settlement pattern of the Laurentian Tradition was dispersed in nature, with base camps located in a wide range of microenvironments, including riverine as well as upland zones (McBride 1978, 1984:252). Finally, subsistence strategies of Laurentian Tradition focused on hunting and gathering of wild plants and animals from multiple ecozones.

The second Late Archaic tradition, known as the Narrow-Stemmed Tradition, is unlike the Laurentian Tradition, and it likely represents a different cultural adaptation. The Narrow-Stemmed tradition is recognized by the presence of quartz and quartzite narrow stemmed projectile points, triangular quartz Squibnocket projectile points, and a bipolar lithic reduction strategy (McBride 1984). Other tools found in Narrow-Stemmed Tradition artifact assemblages include choppers, adzes, pestles, antler and bone projectile points, harpoons, awls, and notched atlatl weights. Many of these tools, notably the projectile points and pestles, indicate a subsistence pattern dominated by hunting and fishing, as well the collection of a wide range of plant foods (McBride 1984; Snow 1980:228).

#### The Terminal Archaic Period (3,700 to 2,700 B.P.)

The Terminal Archaic, which lasted from ca., 3,700 to 2,700 BP, is perhaps the most interesting, yet confusing of the Archaic Periods in southern New England prehistory. Originally termed the "Transitional Archaic" by Witthoft (1953) and recognized by the introduction of technological innovations, e.g., broadspear projectile points and soapstone bowls, the Terminal Archaic has long posed problems for

regional archeologists. While the Narrow-Stemmed Tradition persisted through the Terminal Archaic and into the Early Woodland Period, the Terminal Archaic is coeval with what appears to be a different technological adaptation, the Susquehanna Tradition (McBride 1984; Ritchie 1969b). The Susquehanna Tradition is recognized in southern New England by the presence of a new stone tool industry that was based on the use of high quality raw materials for stone tool production and a settlement pattern different from the “coeval” Narrow-Stemmed Tradition.

The Susquehanna Tradition is based on the classification of several Broadspire projectile point types and associated artifacts. There are several local sequences within the tradition, and they are based on projectile point type chronology. Temporally diagnostic projectile points of these sequences include the Snook Kill, Susquehanna Broadspire, Mansion Inn, and Orient Fishtail types (Lavin 1984; McBride 1984; Pfeiffer 1984). The initial portion of the Terminal Archaic Period (ca., 3,700-3,200 BP) is characterized by the presence of Snook Kill and Susquehanna Broadspire projectile points, while the latter Terminal Archaic (3,200-2,700 BP) is distinguished by the use of Orient Fishtail projectile points (McBride 1984:119; Ritchie 1971).

In addition, it was during the late Terminal Archaic that interior cord marked, grit tempered, thick walled ceramics with conoidal (pointed) bases made their initial appearance in the Native American toolkit. These are the first ceramics in the region and they are named Vinette I (Ritchie 1969a; Snow 1980:242); this type of ceramic vessel appears with much more frequency during the ensuing Early Woodland Period. In addition, the adoption and widespread use of soapstone bowls, as well as the implementation of subterranean storage, suggests that Terminal Archaic groups were characterized by reduced mobility and longer-term use of established occupation sites (Snow 1980:250).

Finally, while settlement patterns appeared to have changed, Terminal Archaic subsistence patterns were analogous to earlier patterns. The subsistence pattern still was diffuse in nature, and it was scheduled carefully. Typical food remains recovered from sites of this period consist of fragments of white-tailed deer, beaver, turtle, fish and various small mammals. Botanical remains recovered from the site area consisted of *Chenopodium* sp., hickory, butternut and walnut (Pagoulatos 1988:81). Such diversity in food remains suggests at least minimal use of a wide range of microenvironments for subsistence purposes.

### **Woodland Period (2,700 to 350 B.P.)**

Traditionally, the advent of the Woodland Period in southern New England has been associated with the introduction of pottery; however, as mentioned above, early dates associated with pottery now suggest the presence of Vinette I ceramics appeared toward the end of the preceding Terminal Archaic Period (Ritchie 1969a; McBride 1984). Like the Archaic Period, the Woodland Period has been divided into three subperiods: Early, Middle, and Late Woodland. The various subperiods are discussed below.

#### Early Woodland Period (ca., 2,700 to 2,000 B.P.)

The Early Woodland Period of the northeastern United States dates from ca., 2,700 to 2,000 B.P., and it has thought to have been characterized by the advent of farming, the initial use of ceramic vessels, and increasingly complex burial ceremonialism (Griffin 1967; Ritchie 1969a and 1969b; Snow 1980). In the Northeast, the earliest ceramics of the Early Woodland Period are thick walled, cord marked on both the interior and exterior, and possess grit temper.

Careful archaeological investigations of Early Woodland sites in southern New England have resulted in the recovery of narrow stemmed projectile points in association with ceramic sherds and subsistence

remains, including specimens of White-tailed deer, soft and hard-shell clams, and oyster shells (Lavin and Salwen: 1983; McBride 1984:296-297; Pope 1952). McBride (1984) has argued that the combination of the subsistence remains and the recognition of multiple superimposed cultural features at various sites indicates that Early Woodland Period settlement patterns were characterized by multiple re-use of the same sites on a seasonal basis by small co-residential groups.

#### Middle Woodland Period (2,000 to 1,200 B.P.)

The Middle Woodland Period is marked by an increase in the number of ceramic types and forms utilized (Lizee 1994a), as well as an increase in the amount of exotic lithic raw material used in stone tool manufacture (McBride 1984). The latter suggests that regional exchange networks were established, and that they were used to supply local populations with necessary raw materials (McBride 1984; Snow 1980). The Middle Woodland Period is represented archaeologically by narrow stemmed and Jack's Reef projectile points; increased amounts of exotic raw materials in recovered lithic assemblages, including chert, argillite, jasper, and hornfels; and conoidal ceramic vessels decorated with dentate stamping. Ceramic types indicative of the Middle Woodland Period includes Linear Dentate, Rocker Dentate, Windsor Cord Marked, Windsor Brushed, Windsor Plain, and Hollister Stamped (Lizee 1994a:200).

In terms of settlement patterns, the Middle Woodland Period is characterized by the occupation of village sites by large co-residential groups that utilized native plant and animal species for food and raw materials in tool making (George 1997). These sites were the principal place of occupation, and they were positioned close to major river valleys, tidal marshes, estuaries, and the coastline, all of which would have supplied an abundance of plant and animal resources (McBride 1984:309). In addition to villages, numerous temporary and task-specific sites were utilized in the surrounding upland areas, as well as in closer ecozones such as wetlands, estuaries, and floodplains. The use of temporary and task-specific sites to support large village populations indicates that the Middle Woodland Period was characterized by a resource acquisition strategy that can best be termed as logistical collection (McBride 1984:310).

#### Late Woodland Period (ca., 1,200 to 350 B.P.)

The Late Woodland Period in southern New England dates from ca., 1,200 to 350 B.P., and it is characterized by the earliest evidence for the use of corn in the lower Connecticut River Valley (Bendremer 1993; Bendremer and Dewar 1993; Bendremer et al. 1991; George 1997; McBride 1984); an increase in the frequency of exchange of non-local lithics (Feder 1984; George and Tryon 1996; McBride 1984; Lavin 1984); increased variability in ceramic form, function, surface treatment, and decoration (Lavin 1980, 1986, 1987; Lizee 1994a, 1994b); and a continuation of a trend towards larger, more permanent settlements in riverine, estuarine, and coastal ecozones (Dincauze 1974; McBride 1984; Snow 1980).

Stone tool assemblages associated with Late Woodland occupations, especially village-sized sites, are functionally variable and they reflect plant and animal resource processing and consumption on a large scale. Finished stone tools recovered from Late Woodland sites include Levanna and Madison projectile points; drills; side-, end-, and thumbnail scrapers; mortars and pestles; nutting stones; netsinkers; and celts, adzes, axes, and digging tools. These tools were used in activities ranging from hide preparation to plant processing to the manufacture of canoes, bowls, and utensils, as well as other settlement and subsistence-related items (McBride 1984; Snow 1980). Finally, ceramic assemblages recovered from Late Woodland sites are as variable as the lithic assemblages. Ceramic types identified include Windsor Fabric Impressed, Windsor Brushed, Windsor Cord Marked, Windsor Plain, Clearview Stamped, Sebonac



Stamped, Selden Island, Hollister Plain, Hollister Stamped, and Shantok Cove Incised (Lavin 1980, 1988a, 1988b; Lizee 1994a; Pope 1953; Rouse 1947; Salwen and Ottesen 1972; Smith 1947). These types are more diverse stylistically than their predecessors, with incision, shell stamping, punctation, single point, linear dentate, rocker dentate stamping, and stamp and drag impressions common (Lizee 1994a:216).

### **Summary of Connecticut Prehistory**

In sum, the prehistory of Connecticut spans from ca., 12,000 to 350 B.P., and it is characterized by numerous changes in tool types, subsistence patterns, and land use strategies. For the majority of the prehistoric era, local Native American groups practiced a subsistence pattern based on a mixed economy of hunting and gathering wild plant and animal resources. It is not until the Late Woodland Period that incontrovertible evidence for the use of domesticated species is available. Further, settlement patterns throughout the prehistoric era shifted from seasonal occupations of small co-residential groups to large aggregations of people in riverine, estuarine, and coastal ecozones. In terms of the region containing the proposed study area, a variety of prehistoric site types may be expected. These range from seasonal camps utilized by Archaic populations to temporary and task-specific sites of the Woodland era.

## CHAPTER IV

### HISTORIC OVERVIEW

#### **Introduction**

As discussed in Chapter I of this document, the proposed LOW encompasses 20.7 ac of land and is situated in an existing golf course located in the town of Stonington in New London County. Although the LOW is near the geographic center of Stonington, the town's historical development has tended to be focused toward the coast, leaving this region relatively undeveloped even to the present day. The remainder of this chapter presents an overview history of the town of Stonington with details specific to the LOW.

#### **Contact Era and Native American History of the Town of Stonington**

The town of Stonington lies within the region conquered from the Pequot Native Americans in 1636-1637, during a war prosecuted against them by the alliance of the Massachusetts Bay Colony, Connecticut Colony, and the Mohegan Native Americans. At that time, the main settlements of the Pequots were located in the what is now the neighboring town of Groton. One of these settlements consisted of a fort situated on the heights "a little southeast of Fort [G]riswold," where the sachem Sassacus resided. The other was located near the Mystic river, which is the one at which the Pequots were attacked in an assault led by Captain John Mason in 1637 (Barber 1837:311). According to historical reports, Sassacus and his people destroyed their other fort before the alliance could attack them. They then fled the area; however, Sassacus was eventually captured and killed.

After the war, the surviving members of the Pequot tribe were divided among the victorious participants, including both colonists and Mohegans. The colonists sold many of the prisoners they took into slavery in the Caribbean, while others were taken by Uncas and blended into the Mohegan Tribe. Although the colonists expected that the Pequot community would cease to exist, two groups of Pequots reconstituted themselves. They were granted reservation lands in what are now Ledyard and North Stonington. The Mashantucket Pequots settled on the reservation lands in Ledyard, while the Eastern Pequots occupied the North Stonington reservation. During the later twentieth century, the Mashantucket Pequot (Ledyard) group successfully took advantage of Federal laws regarding Native Americans to secure federally recognized status, which they have in turn used to establish a major casino and related commercial activity in Ledyard (Hauptman and Wherry 1990).

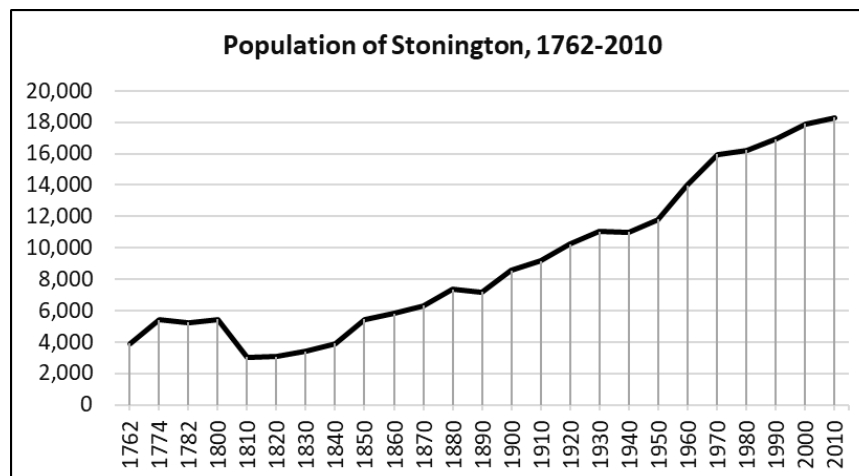
The Mohegan tribe of Native Americans was based in what is now the town of Montville and areas further north. After the war their leader, Uncas, successfully used English ideas about monarchical sovereignty to claim much of northern New London County as his personal property. In 1659, he sold about nine square miles of this land to English colonists, which became the town of Norwich (Crofut 1937; Guillette 1979). Over time he and his heirs also sold or lost most of the remaining land, but the community managed to hold on to some of it. In the late twentieth century, like the Mashantucket Pequots, the Mohegan community succeeded in gaining Federal recognition and also established a major casino and related commercial activity in Montville, where their reservation is also located. Southern New London County and the Stonington area, however, were divided between the colonial governments after the war.

### Colonial Period History of the Town of Stonington (to 1790)

As a result of the joint nature of the Pequot War, the question of which colony, Connecticut or Massachusetts, would have jurisdiction over the conquered area was a problem. This was resolved in 1658 when the coastal land was divided at the Mystic River, with Connecticut keeping the west side and Massachusetts Bay reserving the east side. As a result, the Stonington area was part of the Massachusetts Bay Colony for several decades and known as Southerton, and some of its earliest land records are recorded in the records of Suffolk County, Massachusetts. An additional complication was that in 1641, before the inter-colony agreement, Connecticut surveyed the conquered land and made several grants of land in it to individuals, including one to William Chesebrough in 1652 that is now the borough of Stonington (incorporated 1801). The royal Charter granted to Connecticut in 1662 extended the colony's boundary eastward to the Pawcatuck River, thus bringing the section east of the Mystic River back within Connecticut Colony's control. In 1665, the General Court of Connecticut changed the name of the colonial town to Mistick, then in 1666 changed it again, to Stonington (Crofut 1937).

The historic village located at the head of Mystic began to form after 1660, and when the first Congregational meeting house was built in 1673, it was arguably closer to the historic ferry than to any other point in the town. In 1674, a grist mill was built on the Mystic River above the falls. A fulling mill was built by James Dean Jr. in 1720 on what is now called Copps Brook, which in 1807 became the first modern textile mill in Stonington. By 1700, the "Head O' the River" hosted 12 families, three grist mills, a blacksmith shop, a sawmill, the church, three formally laid out roads, and the ferry. After 1700, numerous additional families and businesses appeared in Stonington, including grist mills on Mill Brook and Stony Brook and a short-lived turning mill (to make wooden items for the ship trade) on Red Brook.

The growing village built a school house in 1751, and in 1753, Benjamin Franklin laid out the Lower Post Road (later Route 1) through Old Mystic. The remainder of the eighteenth century saw the development of more businesses: two or three tanneries, a tavern, a doctor's office, at least two hatter's shops, a store, two shipyards, and another grist mill. A 1762 census of the state recorded 3,900 people in the town of Stonington, including 254 African Americans and 309 Native Americans; thus, the town was 85 percent of European descent in that year (Greenhalgh 1999). By 1782, Stonington was an even more substantial town, with a population of 5,245 residents that made it the sixth-largest in Connecticut (see the population chart below; Keegan 2012).



### **Early National and Industrializing Period History of the Town of Stonington (1790 to 1930)**

As seen in the chart above, the population for 1790 is not available, reflecting the fact that census records for this year were lost. In 1800, Stonington reported 5,437 residents; then, in the 1810 census, there were only 3,043 residents. This can be accounted for by the splitting of Stonington into two separate towns in 1807, North Stonington and Stonington. It was at this time that the town's population dipped to a significant low point. Unlike in many other Connecticut towns, Stonington's population held steady through 1830 and then began a consistent growth trend to 5,431 residents in 1850, 8,540 residents in 1900, and 11,025 residents in 1930 (see the population chart above; Keegan 2012). This growth can best be attributed to the town's coastal location and transportation links.

In 1818, the Groton and Stonington Turnpike Company was chartered to build a turnpike along the Old Post Road between Groton Ferry and the Head of Mystic. This road became an important link in the stagecoach and mail route between New London, Providence, and Boston. It survived as an enterprise until the Shore Line Railroad opened in 1852; the turnpike company dissolved the next year. During the pre-railroad days, turnpikes were an important part of early United States efforts to promote road improvement for the benefit of travel and trade; by granting franchises to private companies, state governments did not have to spend any money, but users of the roads paid tolls to the companies (Wood 1919). Unlike the turnpike, which was further to the north, the railroads passed through lower Mystic along the shore line (Turner and Jacobus 1989). As a result, the economic benefits of rail access also shifted to the south, leaving Old Mystic to become a relatively less important part of the town's economic life.

As in other towns, at the beginning of the nineteenth century many of Stonington's residents were engaged in agriculture. According to an 1819 gazetteer of the state, the "leading agricultural interest" was dairy products; however grain crops were significant in this area (Pease and Niles 1891:165). Many other residents were engaged in fishing or in trade, with ships totaling 1,100 tons based in the town. Despite a relative lack of mill streams, the town also had three textile mills in operation as of 1819. Much of Stonington's prosperity derived from the presence of Stonington Borough, located on the coast in the southeastern corner of the town. The above-referenced gazetteer reported that Stonington had 120 "dwelling houses and stores," two churches, two elementary schools and an academy, two rope walks, and multiple wharves and warehouses. The fishing business in town included cod, mackerel, and also seals (Pease and Niles 1819:165).

By 1837, the coastal section of Stonington contained over 1,000 residents, as well as 150 houses and stores, a bank, two churches, and two academies for secondary education. Commerce in this part of town was centered around sealing and whaling (Barber 1837). The borough also benefited from the fact that the first section of railroad in Connecticut opened from Stonington to Providence in 1837, with steamboats initially providing the link from Stonington to New York City. The westward section was not built until the New Haven, New London & Stonington Railroad was created in 1856; the connection between Groton and Stonington opened in 1858, with a ferryboat crossing the Thames River between Groton and the New London end of the New Haven & New London Railroad (Turner and Jacobus 1989).

The other important settlement loci in Stonington were at Lower Mystic (located on Long Island Sound) and at "the head of Mystic," previously mentioned, where the Mystic River narrows (Barber 1837). Numerous, mostly short-lived manufacturing enterprises were developed in Stonington during the nineteenth century. These ranged from textiles to firearms to soap producers (Hurd 1882). In the 1850 Federal industrial census, the 92 firms listed in Stonington included several types of businesses that are usually found in urban areas, including tailors, milliners, bakers, coopers, and livery stables. Most of

these, presumably, were in the Stonington borough area. The census marshal also included the whale fishery, which may have been an error in his part; however, that records indicates that there were 24 whaling vessels in Stonington as of 1850, as well as two vessels employed in the cod fishery. There were also four shipwrights, one boat builder, and two sailmakers listed. Beyond these, there were also cabinet makers, lumber planing machines, a carriage maker, six textile mills, an iron foundry, and an ice-making firm, among others (United States Census 1850b).

The first ecclesiastical division in Stonington was between the south and the north societies of the Congregational Church. The latter formed the new town of North Stonington in 1807, the only change of its boundaries that Stonington has seen. In the southern part of the town, the churches were at first mainly at Long Point, now known as Stonington Borough; a Methodist Episcopal Church was organized in Old Mystic in 1824, and another in Mystic in 1835. The Old Mystic church received a minister in 1826 and finally built their own church building in 1849. Just two years later it burned down and was rebuilt, and as of 1900 was still being used after major renovations in preceding decades. In 1833, a separate Congregational church was established in the Stonington borough area, leaving the more northerly First Congregational Church to serve the villages of Mystic and Old Mystic (Wheeler 1900).

### **Modern History of the Town of Stonington (1930 to Present)**

During and after the Great Depression, Stonington's population growth stalled, but between 1950 and 1970 the town saw its period of most rapid growth, going from 11,801 residents to 15,940 residents in those two decades. Slower but steady growth continued after that, so that the town's population included 18,293 residents as of 2010 (see the population chart above; Keegan 2012). At the beginning of this period, in 1932, a state report indicate that Stonington's manufacturing operations included that of machinery, printing presses, and textiles. In addition, agriculture was still a going concern among some townspeople (Connecticut 1932).

Stonington changed a great deal during the twentieth century. One of the more important developments was the Connecticut Turnpike, which opened in 1958 after a planning process that had begun in 1944, and was later renamed Interstate 95 (Oglesby 2014). It seems very likely that the quick rise in Stonington's population between 1950 and 1970 is related to both the highway opening and the national trend toward suburban residence that had begun after World War II. As of 2005, agriculture employed only 1.8 percent of the town's workers and manufacturing employed 13.1 percent, while trade and services employed over 57 percent (CERC 2006). This is largely consistent with the economic development of Connecticut and the United States as a whole. As Stonington's population continues to grow, albeit slowly, additional residential and commercial development is possible in the vicinity of the project area.

### **History of the Project Parcel Area**

The project area is located approximately 1,066 m (3,500 ft) to the east of Taugwank Hill, a prominent landmark in Stonington. The Interstate 95 corridor is located 274 m (900 ft) of the western part of the LOW and nearly adjacent to the eastern part of the LOW to be developed. North Anguilla Road runs north from Route 234 between the two project parcel boundaries, extending to a fork, where North Anguilla Road runs to the northwest and Elmridge Road to the northeast. According to an 1854 historic map of the area, the land encompassing the LOW was owned by members of the Randall Family, including E.P. Randall (Figure 3). This map shows that this part of Stonington was sparsely settled as of the middle of the nineteenth century and appeared to have been an agricultural area.

Further, the western portion of the LOW is situated less than 304.8 m (1,000 ft) to the south of the John Randall Homestead (Figure 4). John Randall's home remains standing today and is owned by Jovial Foods Inc. It is a Colonial Style building that is located at 41 Norwich-Westerly Road. The earliest construction episode of this house began in 1685, with the present-day iteration of the building having been completed in 1720. John Randall (1629-1684) had previously settled in Westerly, Rhode Island but purchased the land in 1680 for his son John Randall II (1666-1720) who built the farmhouse that still stands there today. His son, John Randall III (1701-1761) left all of his inherited properties upon his death to his eldest sons, at which point the Randall Homestead of today and the surrounding acreage went to John Randall IV (1730-1802). Upon the death of John Randall IV, the Randall homestead and surrounding acreage was split amongst the eldest siblings. Colonel William Randall (1768-1841) moved to the area within the project parcel area; he fought at the battle of Stonington during the War of 1812. The 2015 book published by Mary Ellen Snodgrass entitled *The Underground Railroad: An Encyclopedia of People, Places, and Operations* indicates that the Randall Homestead as a vital stop in the region along the Underground Railroad, as the house was equipped with a root cellar accessible by a trap door in the kitchen that was concealed by a rug and furniture.

The 1854 and 1868 maps in Figures 3 and 4 show the two Randall homesteads; both are indicated by the label "E.P. Randall" in the 1854 historic map. The first homestead is located at the intersection of North Anguilla Road and Elmridge Road; the second homestead is located approximately 152 m (500 ft) inland from Elmridge Road (Figure 3). Colonel William Randall's son Elias Perkins Randall was born in Stonington in 1822 and lived on the Elmridge homestead with his wife Hannah and son Sans F. Randall until his death in 1899. The 1868 historic map shows both homesteads; the E. Randall homestead belonged to Elias's sister Eunice Randall (1804-1861) until her death (Figure 4).

Aerial photographs of the project parcel indicate that by 1934, the Eunice Randall homestead had been razed. The parcels owned by the Randall Family are contained by stone walls; these areas had minimal forestation progression as of 1934 (Figure 5). Located approximately 304.8 m (1,000 ft) to the east of the Eunice Randall homestead, the Elias P. Homestead appears to be intact along the western boundary of the project area as of 1934 Figure 5. As seen in the 1951 aerial photograph, there was a stone wall running through the project area from north to south (Figure 6). By 1970, the stone wall appears to have been removed (Figure 7). Continued forestation appears outside of the project parcel, as seen in the 1986 aerial photographs (Figure 8). As of 1986, the land within the project area, including the existing Randall homestead, is further defined as a cleared area containing the Elm Ridge Golf Course (Figure 8). The 1995 aerial photograph indicates the expansion of the Elm Ridge Golf Course throughout the project parcel boundaries (Figure 9). The 2004 aerial photograph shows the conditions of the area as much the same as the 1995 image (Figure 10). Finally, the 2016 aerial image shown in Figure 11 presents the project region and the LOW as they exist today. While the above-referenced Randall House is still extant, it is surrounded by the golf course, as well as other modern amenities such as paved street, parking lots, underground utilities, etc.

## Conclusions

The documentary and historical record indicates that it is unlikely that the proposed development will impact any significant historical resources. The development and construction of the Elmridge Golf Course has had significant impacts on the area such that it is unlikely that intact archaeological deposits would remain within the LOW.

## CHAPTER V

### PREVIOUS INVESTIGATIONS

#### **Introduction**

This chapter presents an overview of previous archaeological research completed within the vicinity of the current LOW in Stonington, Connecticut. This discussion provides the comparative data necessary for assessing the results of the current Phase IA cultural resources assessment survey, and it ensures that the potential impacts to all previously recorded cultural resources located within and adjacent to the LOW are taken into consideration. Specifically, this chapter reviews previously identified archaeological sites, National/State Register of Historic Places properties, and inventoried historic standing structures situated in the project region (Figures 12 and 13). The discussions presented below are based on information currently on file at the Connecticut State Historic Preservation Office in Hartford, Connecticut. In addition, the electronic site files maintained by Heritage also were examined during the course of this investigation. Both the quantity and quality of the information contained in the original cultural resources survey reports and State of Connecticut archaeological site forms are reflected below.

#### **Previously Recorded Archaeological Sites, National/State Register of Historic Places Properties/District, and Inventoried Historic Standing Structure in the Vicinity of the Project Items**

A review of data currently on file at the Connecticut State Historic Preservation Office, as well as the electronic site files maintained by Heritage failed to identify any previously identified archaeological sites National/State Register of Historic Places Properties or inventoried historic standing structures within 1.6 km (1 mi) of the LOW. (Figures 12 and 13).

## CHAPTER VI

### METHODS

#### Introduction

This chapter describes the research design and field methodology used to complete the Phase IA cultural resources assessment survey of the LOW in Stonington, Connecticut. The following tasks were completed during this investigation: 1) study of the region's prehistory, history, and natural setting, as presented in Chapters II through IV; 2) a literature search to identify and discuss previously recorded cultural resources in project region; 3) a review of historic maps, topographic quadrangles, and aerial imagery depicting the study area in order to identify potential historic resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the LOW in order to determine its archaeological sensitivity. These methods are in keeping with those required by the Connecticut State Historic Preservation Office in the document entitled: *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987)

#### Research Framework

The current Phase IA cultural resources assessment survey was designed to identify assess the archaeological sensitivity of the LOW, as well as to visually examine the project items and record any previously unidentified cultural resources during pedestrian survey. The undertaking was comprehensive in nature, and project planning considered the distribution of previously recorded cultural resources located within the project region, as well as a visual assessment of the LOW. The methods used to complete this investigation were designed to provide coverage of all portions of the LOW. The fieldwork portion of this undertaking entailed pedestrian survey, photo-documentation, and study area mapping (see below).

#### Archival Research & Literature Review

Background research for this project included a review of a variety of historic maps depicting the proposed LOW; an examination of USGS 7.5' series topographic quadrangles; an examination aerial images dating from 1934 through 2016; and a review of all archaeological sites, National and State Register of Historic Places, and inventoried historic standing structures on file with the Connecticut State Historic Preservation Office, as well as electronic cultural resources data maintained by Heritage. The intent of this review was to identify all previously recorded cultural resources situated within and immediately adjacent to the LOW and to provide a natural and cultural context for the project region. This information then was used to develop the archaeological context of the LOW, and to assess its sensitivity with respect to the potential for producing intact cultural resources.

Background research materials, including historic maps, aerial imagery, and information related to previous archaeological investigations, were gathered from the Connecticut State Historic Preservation Office. Finally, electronic databases and Geographic Information System files maintained by Heritage were employed during the course of this project, and they provided valuable data related to the project region, as well as data concerning previously identified archaeological sites, National and State Register of Historic Places properties, and inventoried historic standing structures within the general vicinity of the LOW and access roads.



**Field Methodology and Data Synthesis**

Heritage also performed fieldwork for the Phase IA cultural resources assessment survey of LOW associated with the proposed solar project in Stonington, Connecticut. This included pedestrian survey, photo-documentation, and mapping of the areas containing the LOW. During the completion of the pedestrian survey, representatives from Heritage photo-documented all potential areas of impact using digital media.

## CHAPTER VII

# RESULTS OF THE INVESTIGATION & MANAGEMENT RECOMMENDATIONS

### Introduction

This chapter presents the results of the Phase IA cultural resources assessment survey of the LOW in Stonington, Connecticut, as well as management recommendations for treatment of the proposed impacted areas associated with the solar center project. As stated in the introductory section of this report, the goals of the investigation included completion of the following tasks: 1) a contextual overview of the region's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously completed cultural resources surveys and previously recorded cultural resources in the project region; 3) a review of readily available historic maps and aerial imagery depicting the access roads and LOW in order to identify potential historic resources and/or areas of past disturbance; 4) pedestrian survey and photo-documentation of the project items in order to determine their archaeological sensitivity; and 5) preparation of the current Phase IA cultural resources assessment survey report.

### Results of Phase IA survey

Heritage completed a pedestrian survey of the project area, specifically the two parcels that comprise the LOW, on October 23, 2019. The pedestrian survey involved a thorough inspection of the project area, mapping of any significant features, detailed note taking, and digital photography. As seen in Figure 1, the LOW consists of two parcels located within the confines of the Elmridge Golf Course located at 229 Elmridge Road in Stonington, Connecticut. The parcel located to the east is square in configuration and measured approximately 6.8 acres in size (Figure 1). The area is currently part of the golf course and contains one standing structure located toward the southeastern corner of the parcel. The second parcel proposed to be developed is located at the southwestern end of the golf course and measures approximately 11.9 acres in size. The west parcel is irregular in shape and is bound by Interstate 95 to the west and North Anguilla Road to the east. Anguilla Brook and its associated wetland runs across the southwestern corner of the parcel. The area to the north of the western parcel is partially wooded and contains structures, most likely associated with the current golf course facility.

### Overall Sensitivity of the Proposed Study Area

The field data associated with soils, slopes, aspect, distance to water, and previous disturbance collected during the pedestrian survey and presented above was used in conjunction with the analysis of historic maps, aerial images, and data regarding previously identified archaeological sites, National and State Register of Historic Places properties, and inventoried historic standing structure to stratify the LOW into zones of no/low and/or moderate/high archaeological sensitivity. In general, historic period archeological sites are relatively easy to identify on the current landscape because the features associated with them tend to be relatively permanent constructions that extend above the ground surface (i.e., stone foundations, pens, wells privies, etc.). Archaeological sites dating from the prehistoric era, on the other hand, are less often identified during pedestrian survey because they are buried, and predicting their locations relies more on the analysis and interpretation environmental factors that would have informed Native American site choices.

With respect to the potential for identifying prehistoric archaeological sites, the LOW was divided into areas of no/low and/or moderate/high archaeological potential by analyzing the landform types, slope, aspect, soils contained within them, and their distance to water. In general, areas located less than 300 m (1,000 ft) from a freshwater source and that contain slopes of less than 8 percent and well-drained soils possess a high potential for producing prehistoric archaeological deposits. Those areas located between 300 and 600 m (1,000 and 2,000 ft) from a freshwater source and well drained soils are considered moderate probability areas. This is in keeping with broadly based interpretations of prehistoric settlement and subsistence models that are supported by decades of previous archaeological research throughout the region. It is also expected that there may be variability of prehistoric site types found in the moderate/high sensitivity zones. For example, large Woodland period village sites and Archaic period seasonal camps may be expected along large river floodplains and near stream/river confluences, while smaller temporary or task specific sites may be expected on level areas with well-drained soils that are situated more than 300 m (1,000 ft) but less than 600 m (2,000 ft) from a water source. Finally, steeply sloping areas, poorly drained soils, or areas of previous disturbance are generally deemed to retain a no/low archaeological sensitivity with respect to their potential to contain prehistoric archaeological sites. In spite of its close proximity to Anguilla Brook and the Pawcatuck River drainage, the project area LOW was found to retain a low sensitivity to contain intact archaeological deposits due to extensive grading and other land disturbances associated with the golf course located within the project area.

In addition, the potential for a given area to yield evidence of historic period archaeological deposits is based not only the above-defined landscape features but also on the presence or absence of previously identified historic period archaeological resources as identified during previous archaeological surveys, recorded on historic period maps, or captured in aerial images of the region under study. In this case, proposed project items that are situated within 100 m (328 ft) of a previously identified historic period archaeological site, a National or State Register of Historic Places district/individually listed property, or an area that contains known historic period buildings also may be deemed to retain a moderate/high archaeological sensitivity. In contrast, those areas situated over 100 m (328 ft) from any of the above-referenced properties would be considered to retain a no/low historic period archaeological sensitivity.

Although the area immediately outside the LOW contains one standing structure that dates to the historic period (former Randall House) and one historic structure that, based on a review of historic maps and aerial images, appear to have been razed sometime between 1868 and 1934, no other historic structures are present within the current LOW configuration. The above-referenced Randall House has been incorporated into the ElmrIDGE Golf Course and has been modified throughout the years. It will not be directly impacted by the proposed solar center, and its setting has been radically changed throughout the historic and modern eras. Thus, no impacts to this building are anticipated by construction of the solar center. Moreover, any archaeological deposits associated with those historic structures have since been destroyed by the construction of the golf course. As such, the project LOW is considered to retain little, if any, archaeological sensitivity to contain intact historic deposits; therefore no further archaeological study is recommended. A more elaborate discussion on site sensitivity at the current project LOW is presented below.

### **Management Recommendations**

Due to large scale land altering activities related to the construction of the existing golf course, it is believed that any archaeological deposits contained within the two parcels that make up the LOW, have already been disturbed and no longer retain research potential. As such, no additional archaeological survey of the Low is recommended prior to construction of the proposed solar array center.

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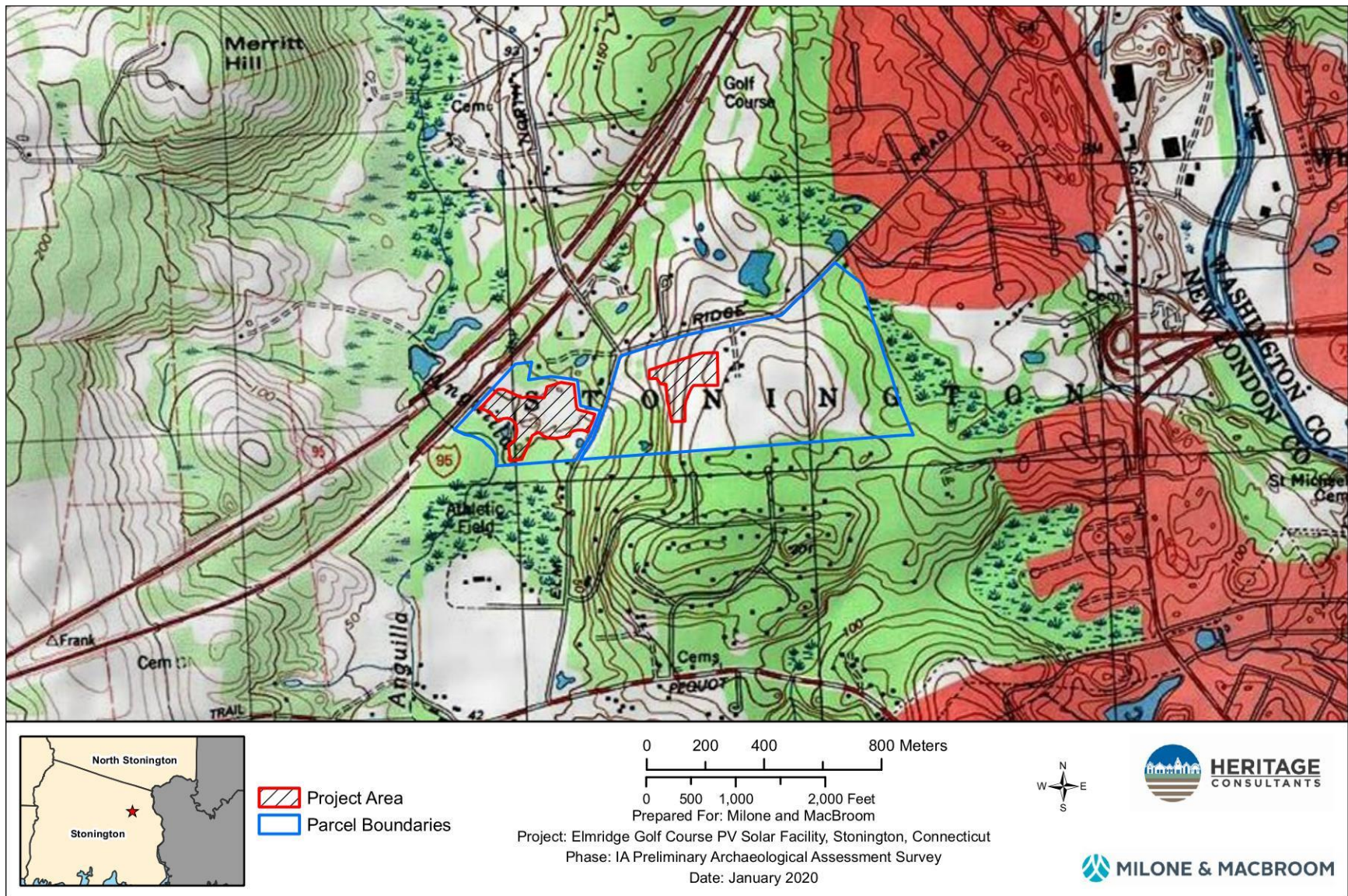


Figure 1. Excerpt from a USGS 7.5' series topographic quadrangle image showing the location of the Project parcels in Stonington, Connecticut.



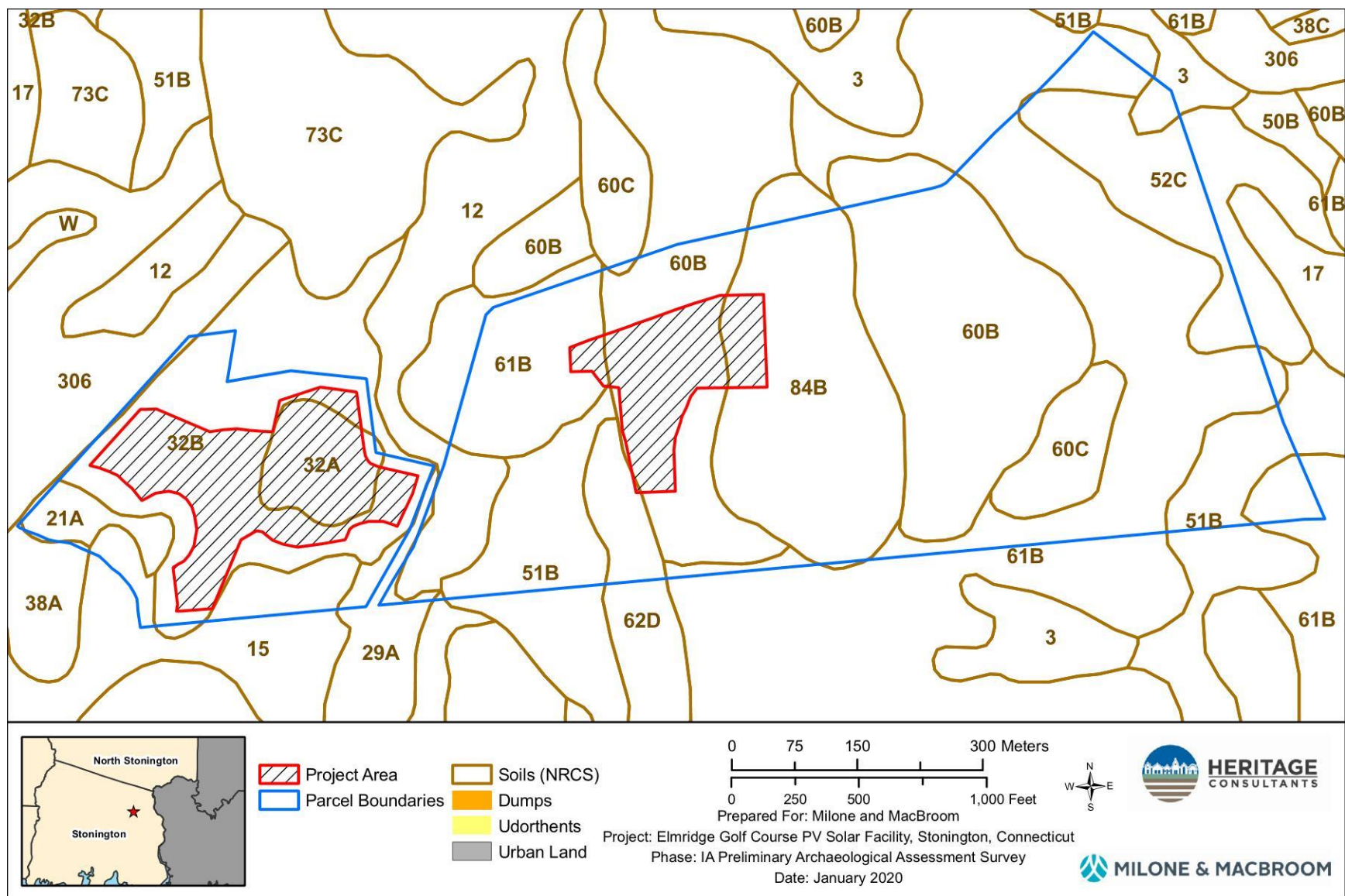
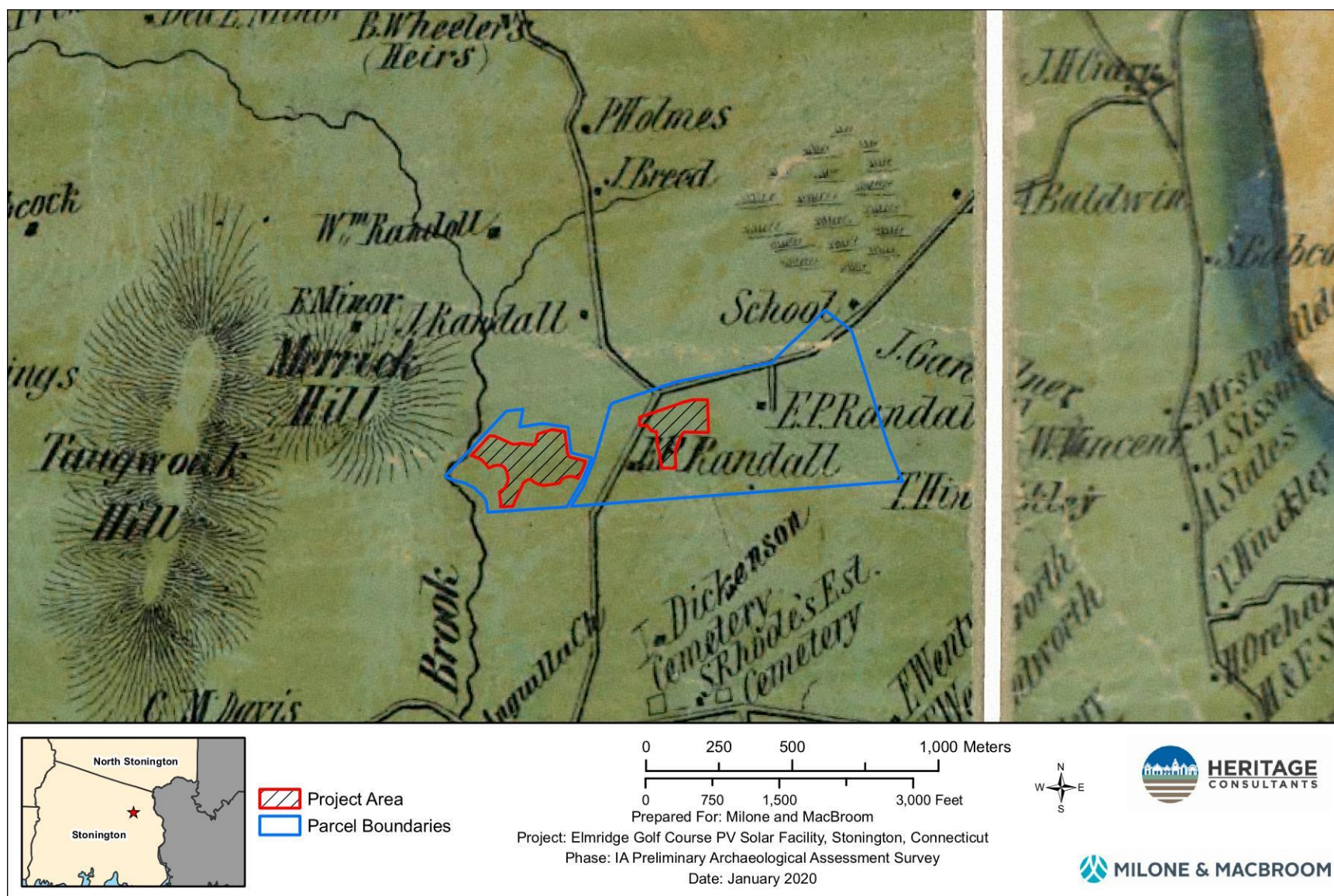


Figure 2. Map of soil located in the vicinity of the Project parcels in Stonington, Connecticut.





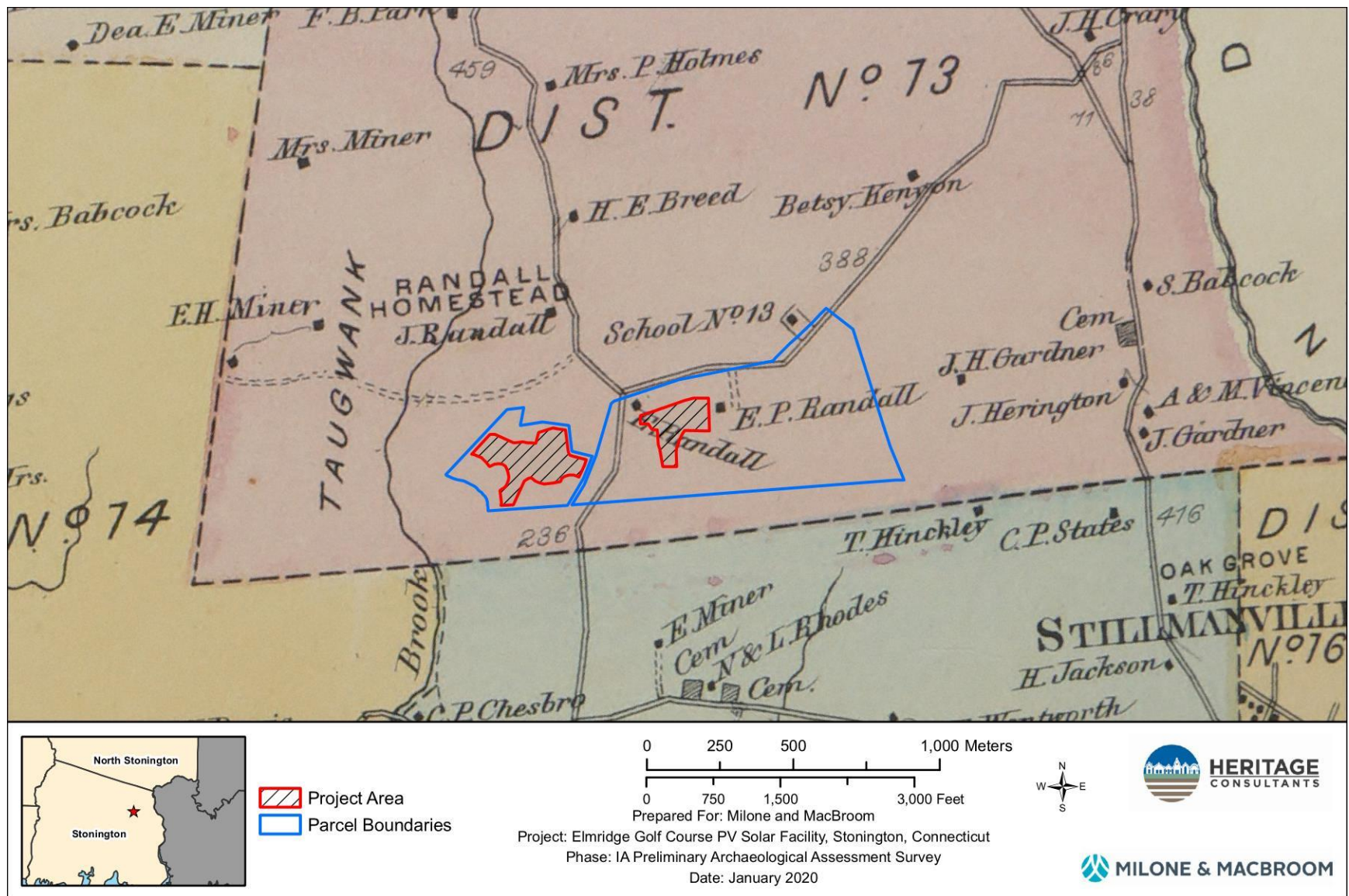


Figure 4. Excerpt from an 1868 historic map showing the location of the Project parcels in Stonington, Connecticut.



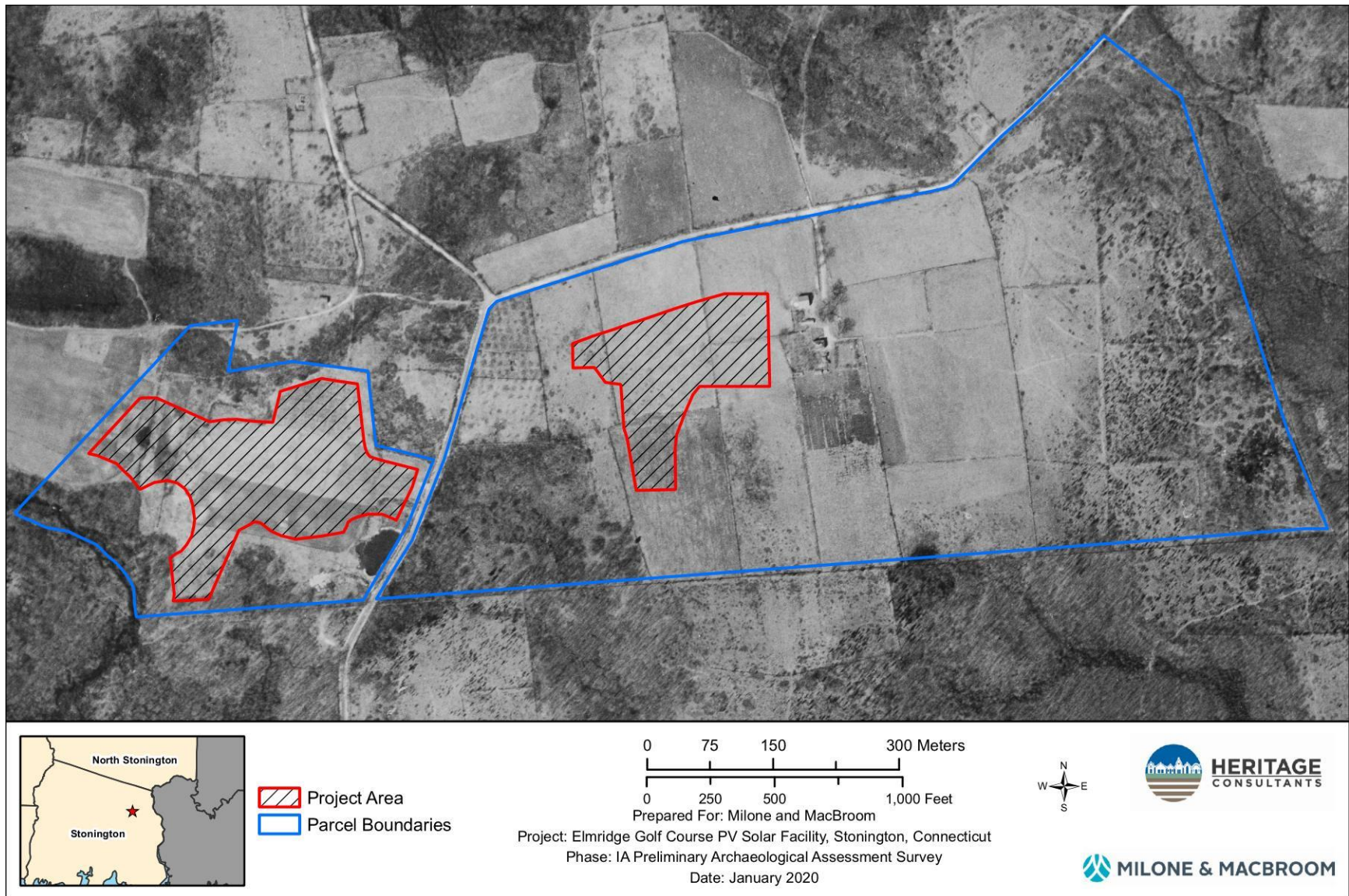


Figure 5. Excerpt from a 1934 aerial photograph showing the location of the Project parcels in Stonington, Connecticut.

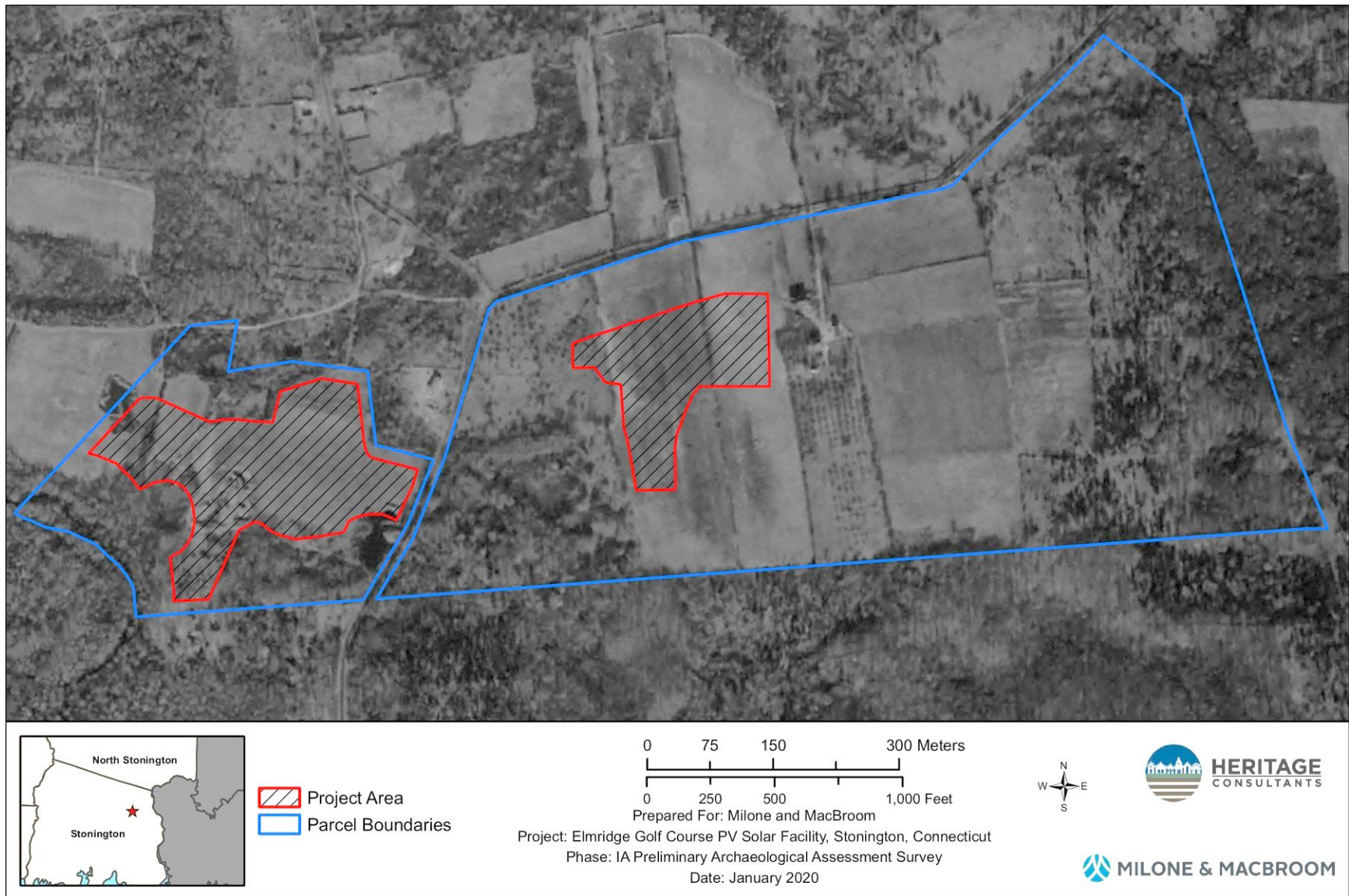


Figure 6. Excerpt from a 1951 aerial photograph showing the location of the Project parcels in Stonington, Connecticut.



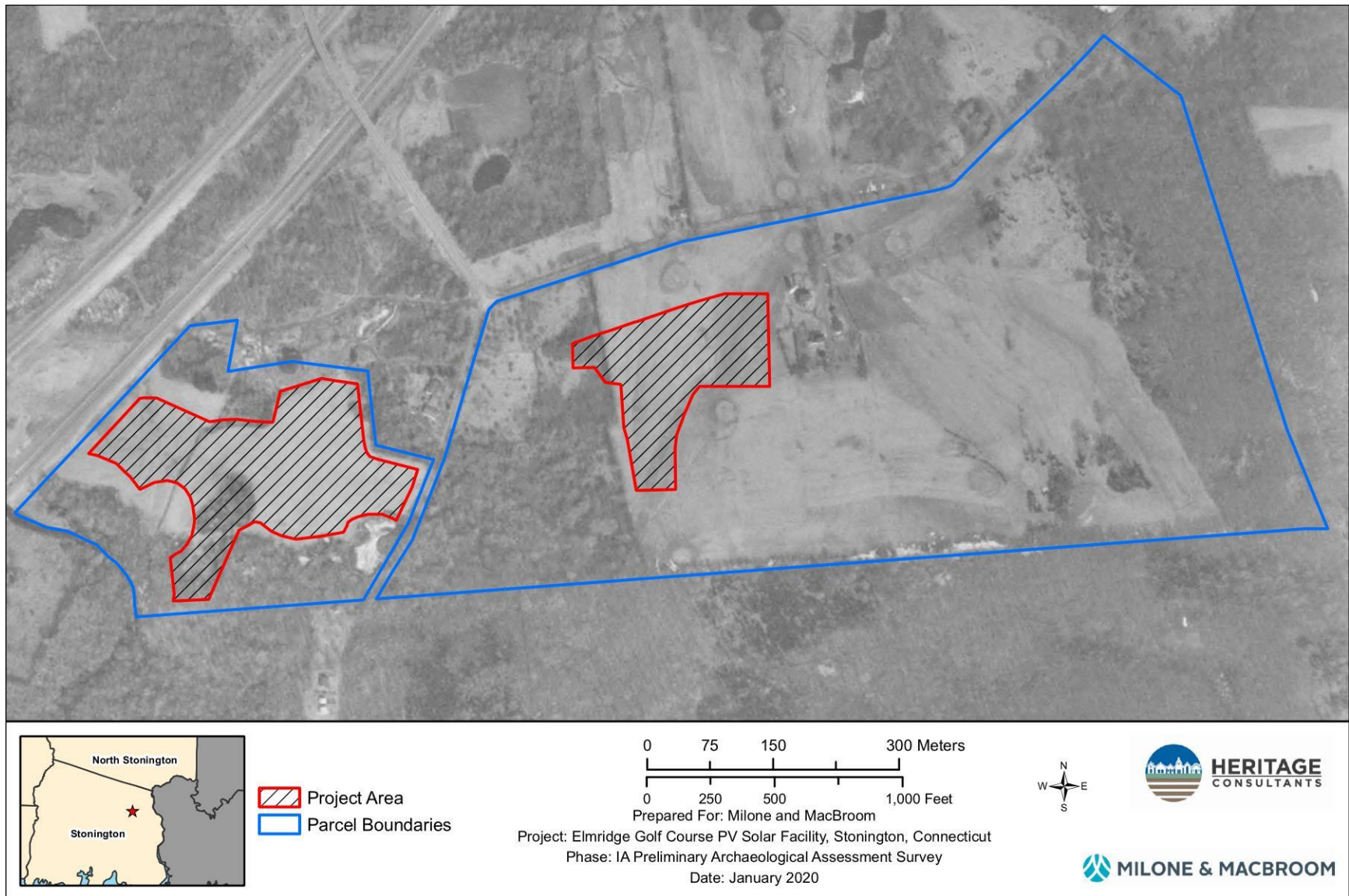


Figure 7. Excerpt from a 1970 aerial photograph showing the location of the Project parcels in Stonington, Connecticut.



Figure 8. Excerpt from a 1986 aerial photograph showing the location of the Project parcels in Stonington, Connecticut.



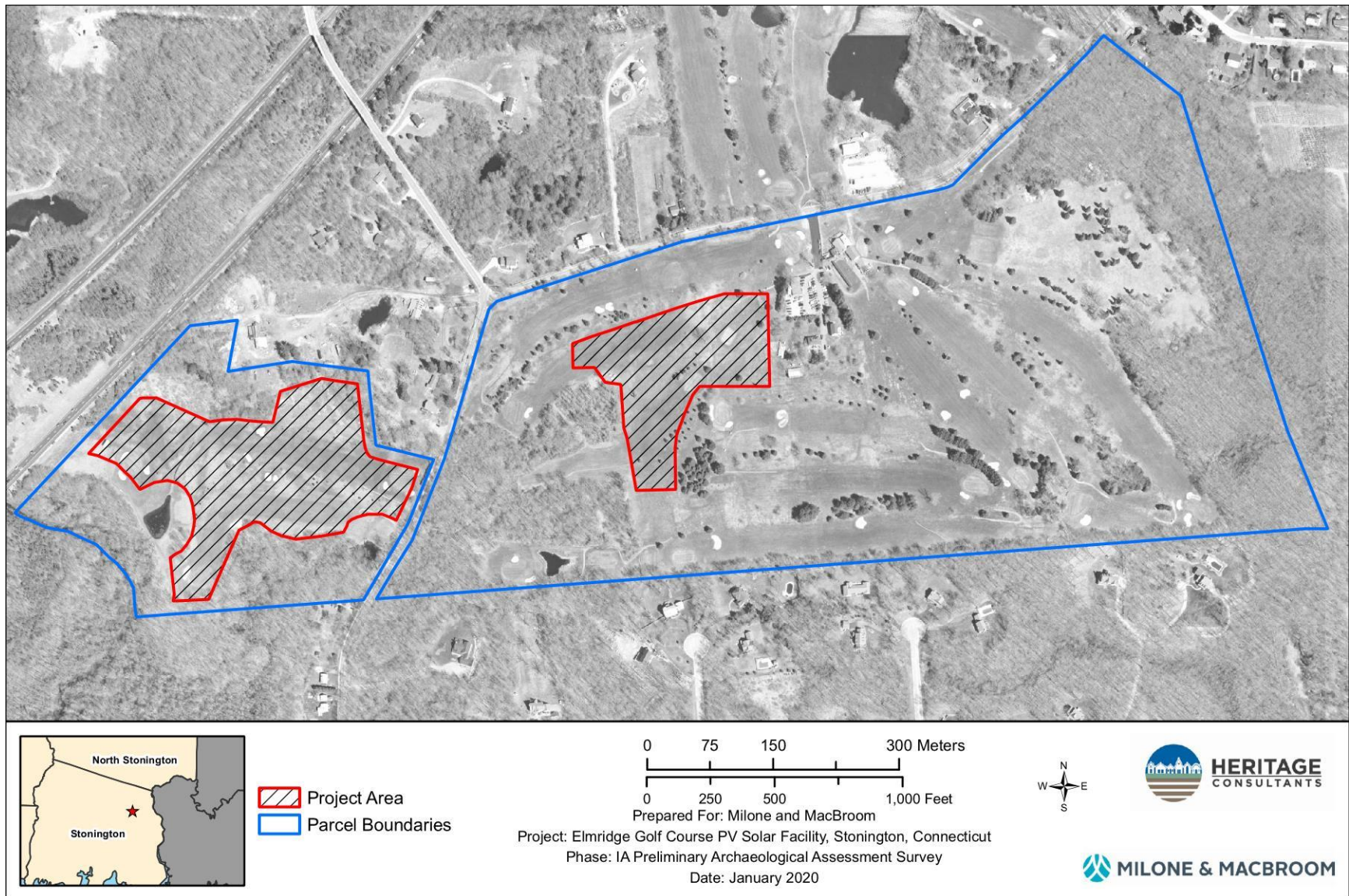


Figure 9. Excerpt from a 2004 aerial photograph showing the location of the Project parcels in Stonington, Connecticut.



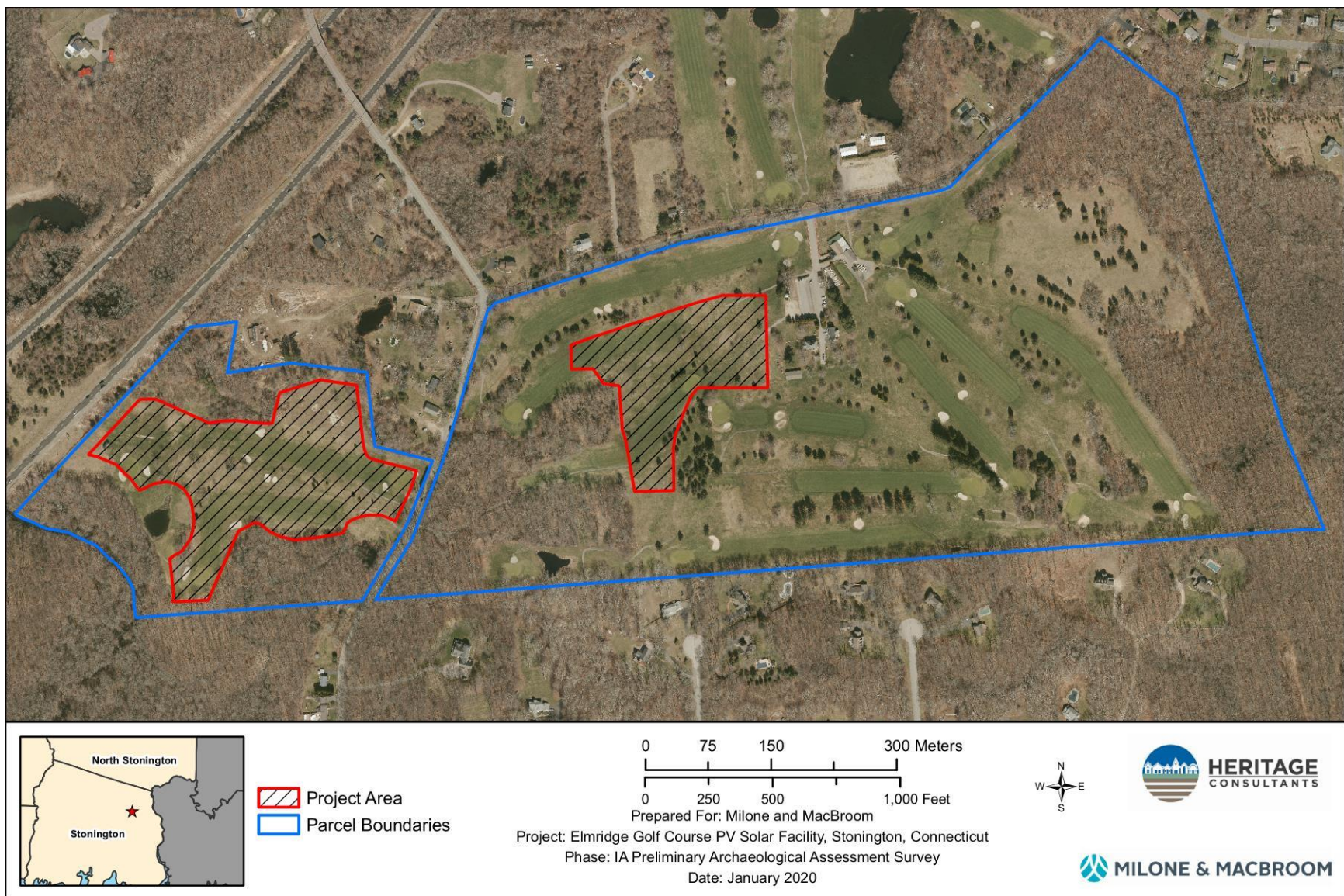


Figure 10. Excerpt from a 2016 aerial photograph showing the location of the Project parcels in Stonington, Connecticut.



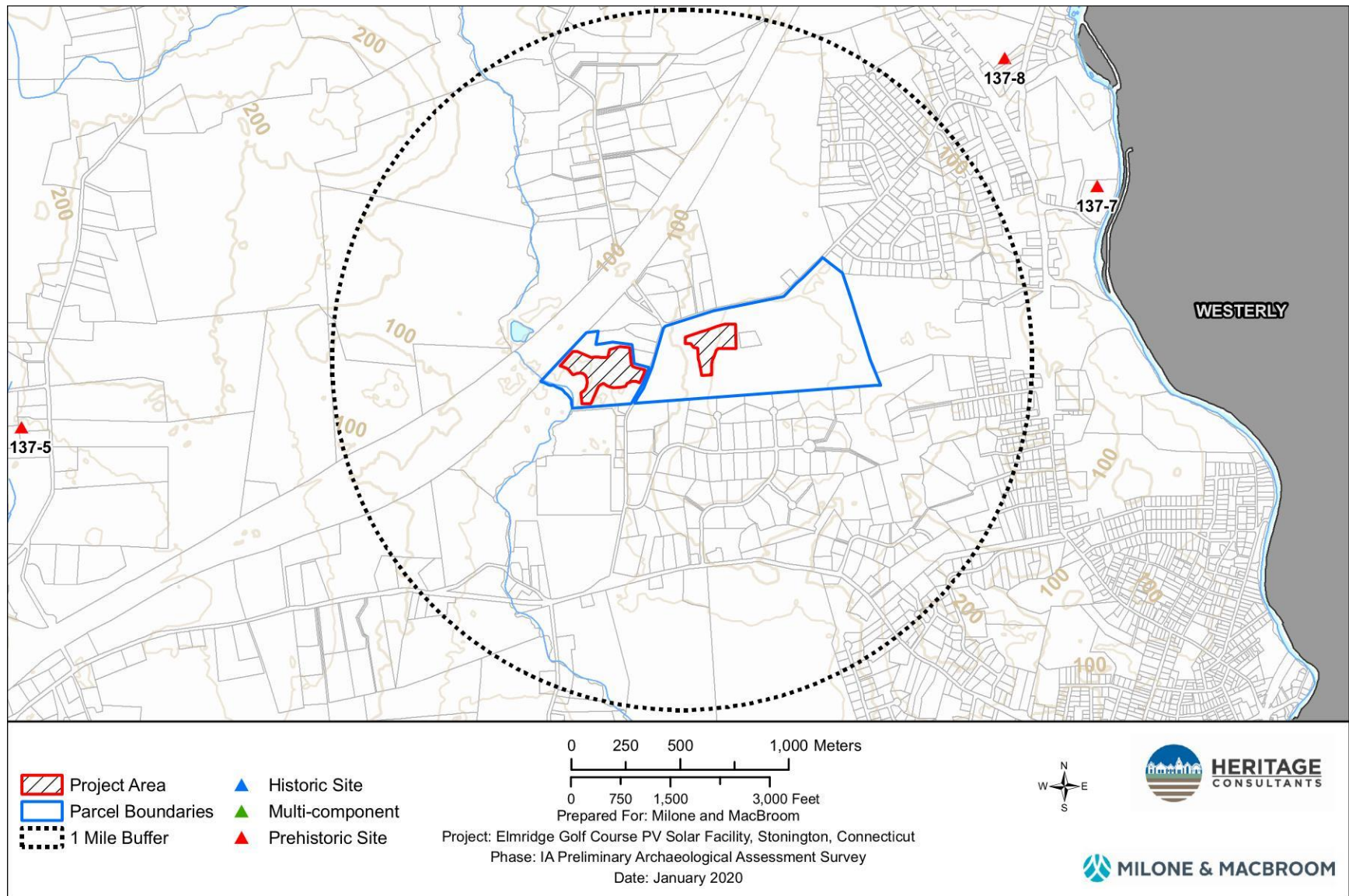


Figure 11. Digital map showing the location of previously identified archaeological sites in the vicinity of the Project parcels in Stonington, Connecticut.

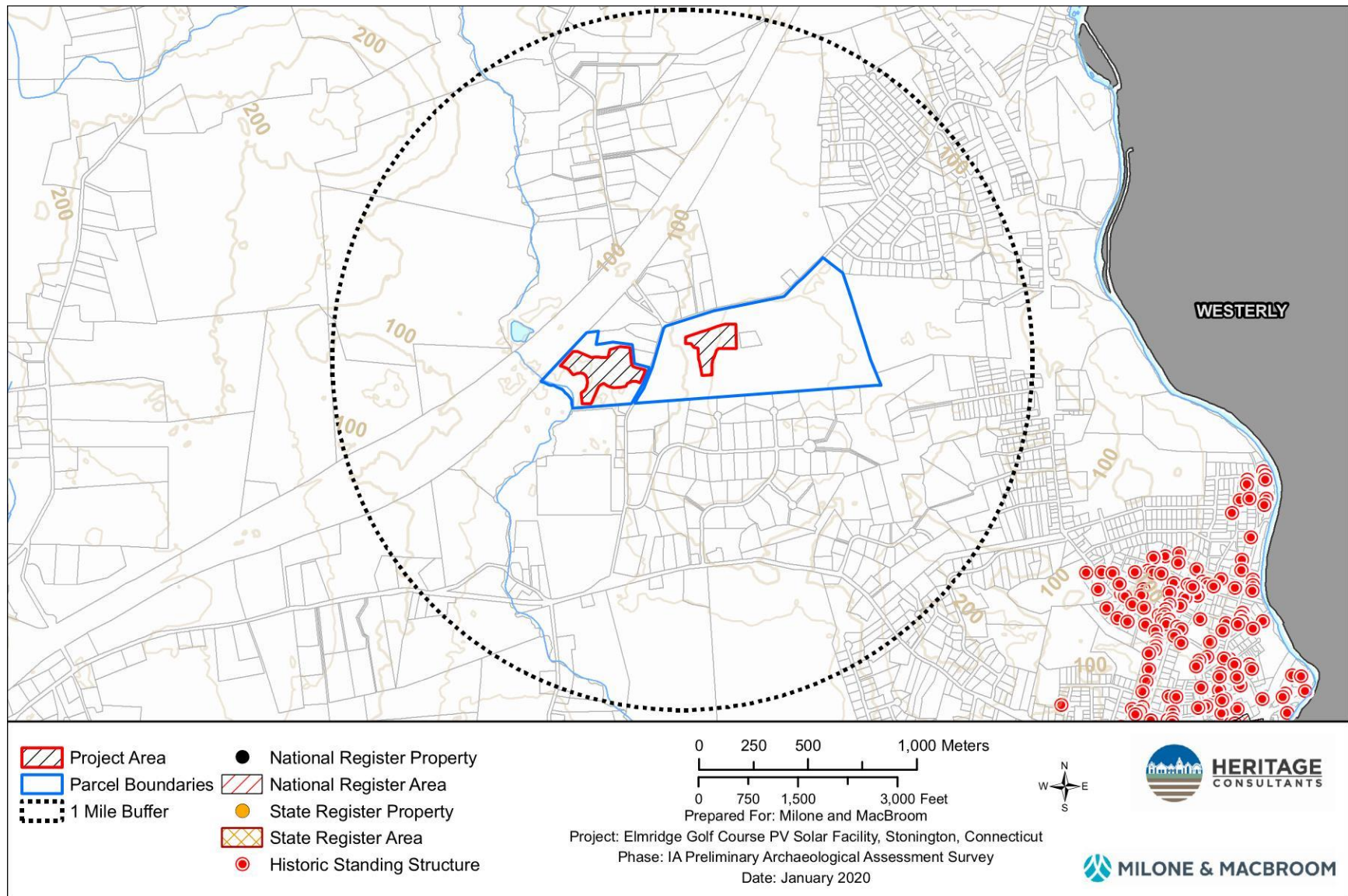


Figure 12. Digital map depicting the locations of previously identified National/State Register of Historic Places properties and Historic Standing Structures in the vicinity of the Project parcels in Stonington, Connecticut.





Figure 13. Overview photo of the eastern portion of the LOW (note swales associated with previous bulldozing in this area).



Figure 14. Overview photo of the eastern portion of the LOW (note golf course construction-related disturbance in this area).



Figure 15. Overview photo of the eastern portion of the LOW (note swales associated with previous bulldozing in this area).



Figure 16. Overview photo of the eastern portion of the LOW (note swales associated with previous bulldozing in this area).





Figure 17. Overview photo of the western portion of the LOW (note swales and golf course construction-related disturbance associated with previous bulldozing in this area).



Figure 18. Overview photo of the western portion of the LOW showing landscaped areas and a modern structure.



Figure 19. Overview photo of the western portion of the LOW (note swales associated with previous bulldozing in this area).



Figure 20. Overview photo of the eastern portion of the LOW (note swales associated with previous bulldozing in this area).